

## An analytical study of perception of customers in using E- banking services in Nagpur Region

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### ABSTRACT

Since LPG era Indian banking system has undergone the radical changes. Earlier the banking system which was for classes have changed into banking for masses. Besides lending and borrowing which were the main functions of the bank, it has started providing myriads of services to the customers. These structural changes were only possible because of the internet banking or E- banking services. Despite this, due to conservative nature of the customers they are hesitant in using these services. While conducting the research it was being observed that even customers from highly qualified class do not use these services too. This study is an attempt to understand the vitality of various determinants that act as stimulus in guiding different segment of customers to use E- banking services.

**JEL Classification- G21, G28, R12**

### 1. INTRODUCTION

Since inception banks have performed two basic functions of borrowing and lending, which lead it to act as intermediary between savers and the borrowers. To earn profits banks have been managing the equation of interest rates of borrowing and lending. The interest which banks earn in this transaction is termed as their profit. However, the conventional nature of banking has changed since the decade; it has started offering several services to the customers like ATM, Debit/Credit cards, online transactions, ECS, Payment of bills etc. Banks have diversified their role from lending and borrowing. This has led to the tremendous growth of the banks along with the expansion of their customers' database. Such radical changes are brought on to the surface due to extensive usage of information technology in the field of banking. *Internet banking has been an innovation in the system of banking which has enabled the banks to sustain in the era of glocalisation of the product and services in the banking sector.*

### 2. REVIEW OF EXISTING LITERATURE-

Few of the existing studies have given different rationale for the development of E- banking services.

Sr. No.	Year of study	Author of study	Crux of the study
1	1999	Sathye	Lack of awareness and security concerns were the main problems owing to which the customers adopted internet banking in Australia.
2	2001	Tomiuk and Pinsoneault	Core banking offers an excellent solution to the problems attributed to the inefficiency in services, thereby creating a trusting relationship between customers and bank employees.
3	2002	Karjaluo	A study conducted in Finland highlighted that branch banking that used to be highly time consuming and involved considerable efforts has now been substituted by banking at the click of mouse
4	2004	Pikkarainen	Internet banking gives customers access to almost all types of transaction at a click of mouse. E- banking services range from bill payments to making investments.
5	2004	Rafiu, Mattila	This study conducted in Finland found that people who used e-banking services generally belong to the higher strata of the society and were young in age.

6	2006	Awamleh and Fernandez	In this study which was carried out in UAE, it was found that relative usefulness, perceived risk, computer efficiency and image of the bank played very important role in usage of internet banking.
7	2006	Limsombuchai and Weng	Major apprehension for the 'non-adoption' of e-banking lies in security concerns and lack of awareness of online banking.
8	2011	Masocha et al	This study suggested that offering counselling to the customers by the trained staff personnel regarding lower services charges and the potential threats at ATM's, e-banking can be made more effective.
9	2013	Rajiv Khosla, Parul Munjal	This study attempted to find out the perception of the customers towards banking services in particular. Unambiguously, it tries to map out the factors that act as stimulants for availing e-banking services among different groups of people.

### 3. RESEARCH DESIGN

The research design followed in this paper is '*Exploratory research design*'. Researcher herein tried to identify the factors which motivate the customers to the use core banking services and the factors for which customers use core banking services. In this research 'Exploratory factor analysis' is performed twice along with the interpretation of non parametric data gathered.

### 4. OBJECTIVES

1. To study the perception of customers while choosing their banks.
2. To study the perception of the customers towards the core banking services provided by the banks.
3. To find out the factors responsible for influencing the customers for which customers use the core banking services in particular.
4. To find out the factors responsible for influencing the customers to use core banking services.

### 5. DATA COLLECTION AND SOURCES OF DATA

While conducting the research study one needs to collect the data which is appropriate in nature, manier times the problem arises because of sampling frame consideration while some errors arise out of non-sampling frame considerations.

#### 5.1 Population-

The study is related to bank customers in Nagpur region hence all the bank customers who uses E- banking services becomes the population for the study.

#### 5.2 Sampling frame-

Since Nagpur is broadly divided into four zones the sample is collected from the four zones, 25 customers from each zone. The sampling is stratified and convenient. Sample is homogeneous within the strata and heterogeneous outside the strata.

#### 5.3 Data Consideration-

The data considered in the research is considered to be the representative of the total population. As the population is very diverse it was difficult for the researcher to increase the sample size. However the condition of data sufficiency was taken into consideration while deciding the sample size.

#### 5.4 Sources of Data-

The data collected in this research is primary in nature. As the research design is exploratory in nature, the data collected in these cases mostly is primary in nature. The data is collected by administering the questionnaire to the respondents'.

#### 5.5 Questionnaire design

The questionnaire used in this research is a formalized and unconcealed type of questionnaire.

#### 5.6 Tools used

Tools used in this research are-

- 1) Ms- Office package- 2007
- 2) Ms-Excel- Data Analysis tool pack (VBA tool pack)
- 3) IBM SPSS-20

## 6. DATA ANALYSIS AND INTERPRETATION-

### 6.1 Section-I

The data interpretation and analysis is performed in two sections. First section includes the interpretation of data of preferences and utility derivation of customers from the banks. While second section includes the factor analysis performed for exploring the factors which define the purpose and reasons behind using E-banking services.

Types of banks	East	West	North	South
Public Sector Banks	32	21	37	16
Private Sector Banks	16	29	7	20
Scheduled Commercial Banks	2	0	6	14

**Interpretation-** Above data shows the preference of the customers while choosing the banks from different sectors. Maximum customers prefer to have account in the public sector banks, this indicates the trust of the customers on the government. While a substantial chunk of customers also prefer private banks over the other two. It indicates the changing dynamics of the banking system.

Services	East Zone	West Zone	North Zone	South Zone
ATM/Debit card	50	50	47	41
Credit card	12	43	7	38
Internet banking	42	37	3	34
Mobile banking	46	42	7	40
Loan Payment/ECS	31	18	3	27
Bills payment	24	29	0	33

**Interpretation-** Above data shows the utility derived by the customers through the value added services of the banks. The utility is significantly different for the different zones. This data has been useful in *tapping the demographic inequalities* of the customers of different zones in Nagpur.

**6.2 Section-II**

**6.2.1 Exploration of factor- Purpose of using E-banking services**

**Case Processing Summary**

		N	%
Cases	Valid	100	100.0
	Excluded <sup>a</sup>	0	0.0
	Total	100	100.0

**Reliability Statistics**

Cronbach's Alpha	N of Items
<b>.718</b>	<b>16</b>

a. Listwise deletion based on all variables in the procedure.

**KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		<b>.641</b>
Bartlett's Test of Sphericity	Approx. Chi-Square	760.230
	df	120
	Sig.	<b>.000</b>

**Interpretation-** The reliability coefficient is more than 0.6 indicates the reliability of the dataset. Data sufficiency coefficient (KMO coefficient) is also more than 0.5 shows that the data is adequate to perform the factor analysis. In the same fashion the underlines hypothesis for factor analysis is rejected owing to significance value 0.00 (i.e There is no significant relationship between variables) shows that dataset is perfect for performance of factor analysis. These tests were applied by the researcher to prove the reliability and validity of dataset

**Table- 3 Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.113	19.457	19.457	3.113	19.457	19.457	3.034	18.965	18.965
2	2.516	15.728	35.185	2.516	15.728	35.185	2.416	15.101	34.066
3	2.01	12.506	47.691	2.001	12.506	47.691	1.920	12.000	46.066
4	1.708	10.677	58.368	1.708	10.677	58.368	1.819	11.367	57.433
5	1.418	8.859	67.227	1.418	8.859	67.227	1.524	9.527	66.961
6	1.133	7.083	74.311	1.133	7.083	74.311	1.176	7.350	74.311
7	.899	5.616	79.927						
8	.706	4.413	84.340						
9	.680	4.248	88.588						
10	.523	3.266	91.854						
11	.369	2.303	94.157						
12	.299	1.870	96.028						

13	.231	1.445	97.473						
14	.211	1.322	98.795						
15	.160	.997	99.792						
16	.033	.208	100.000						

Extraction Method: Principal Component Analysis.

**Interpretation-** Above table shows the variance explained by the dataset is 74.3% which is according to thumb rule is a good fit of factor analysis model. On the basis of Eigen values researcher here was able to figure out 6 factors.

**Table 4- Rotated Component Matrix<sup>a</sup>**

	Component					
	1	2	3	4	5	6
Checking balance						.722
Mini statement					.789	
Fund transfer					.796	
Checking deadline				.880		
Atm withdrawals						.736
Rail ticket booking	.949					
Online shopping		.910				
Tax filling						
ECS			.910			
Payment of loans				.906		
Applying for loans	.964					
Calculating installments		.854				
Paying installments			.919			
Personal banking	.869					
Transaction history		.864				
Spending log	.607					

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

**Interpretation-** The rotated component matrix confirmed the 6 factors extracted by the technique of using Eigen values. These 6 factors can be named as-

<b>Factor-I Personal Banking</b>	<b>Factor-II Transaction Log</b>	<b>Factor-III Payment Provisions</b>	<b>Factor-IV Deadline Compliance</b>	<b>Factor-V Funds transactions</b>	<b>Factor-VI Liquidity Records</b>
Personal Banking	Online Shopping	ECS	Checking deadlines	Ministatements of credit/debit cards	Checking balance
Spending log	Calculation of Instalments	Paying instalments	Payment of loans	Fund transfer	ATM withdrawals
Applying for loans	Transactions history				
Rail ticket bookings					

**6.2.2 Exploration of factor- Reasons of using E-banking services**

**Case Processing Summary**

		N	%
Cases	Valid	100	100.0
	Excluded <sup>a</sup>	0	0.0
	Total	100	100.0

**Reliability Statistics**

Cronbach's Alpha	N of Items
.738	12

a. Listwise deletion based on all variables in the procedure.

**KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.832
Approx. Chi-Square	640.230
Bartlett's Test of Sphericity	Df
	120
	Sig.
	.000

**Interpretation-** The reliability coefficient is 0.732 indicates the reliability of the dataset. Data sufficiency coefficient (KMO coefficient) is also more than 0.5 shows that the data is adequate to perform the factor analysis. In the same fashion the underlines hypothesis for factor analysis is rejected owing to significance value 0.00 (i.e There is no significant relationship between variables) shows that dataset is perfect for performance of factor analysis. These tests were applied by the researcher to prove the reliability and validity of dataset

**Table 5- Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.054	25.446	25.446	3.054	25.446	25.446	2.967	24.721	24.721
2	2.058	17.148	42.594	2.058	17.148	42.594	1.861	15.505	40.226
3	1.784	14.868	57.462	1.784	14.868	57.462	1.804	15.031	55.257
4	1.504	12.530	69.992	1.504	12.530	69.992	1.767	14.722	69.979
5	1.129	9.406	79.399	1.129	9.406	79.399	1.130	9.420	79.399
6	.866	7.216	86.615						
7	.747	6.226	92.841						
8	.303	2.526	95.367						
9	.280	2.330	97.697						
10	.228	1.902	99.599						
11	.048	.401	100.000						
12	8.035E-17	6.696E-16	100.000						

Extraction Method: Principal Component Analysis.

**Interpretation-** Above table shows the variance explained by the dataset is 79.399% which is according to thumb rule is a good fit of factor analysis model. On the basis of Eigen values researcher here was able to figure out 5 factors.

**Table 6- Rotated Component Matrix<sup>a</sup>**

	Component				
	1	2	3	4	5
efficient				.896	
easy	.993				
speedy					.752
timesaver					.722
convenience	.993				
economical			.890		
reductionofmanualwork					
customizedservice		.918			
updatedinformation				.911	
timelyreminders	.980				
autoclearancesystem			-.915		
authenticatedrecords		.918			

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

**Interpretation-** The rotated component matrix confirmed the 5 factors extracted by the technique of using Eigen values. These 5 factors can be named as-

<b>Factor-I Convenience</b>	<b>Factor-II Reliability</b>	<b>Factor-III Economical</b>	<b>Factor-IV Efficient</b>	<b>Factor-V Time saver</b>
Easy to use	Authentication of records	Economical	Efficient	Speedy
Convenience	Customized service		Updated information	Time saver
Timely reminders				

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**7. CONCLUSION-**

In the present scenario the bank is more than the custodian of reserves, it has revolutionised itself by providing myriads of services through E-banking. Though banks are trying to spread this facility of E-banking extensively, it has been observed that e-banking is confined to a specialised group only. The study has attempted to focus on identifying the preference of customers towards banks, tapping the demographic inequalities in using services providing value to the customers, factors responsible for motivating customers to use the e-banking service. In nutshell this study was an attempt to analyse the benefits of innovation (E- banking) in banking sector and its help in attaining sustainability in the current dynamics.

**8. LIMITATION-**

1. This research is confined to Nagpur region only, hence conclusions can not be generalised.
2. For more authenticated factor analysis further 'Confirmatory factor analysis' can be conducted on the same dataset.

**9. BIBLIOGRAPHY**

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